

REMARKS/ARGUMENTS

Favorable reconsideration of the present application is respectfully requested.

Claims 13 and 18 have been canceled. Claim 24 has been amended responsive to the rejection under 35 U.S.C. § 112, which is believed to be moot.

Claim 1 has been amended to incorporate the subject matter of Claims 13 and 18, and further to recite that the liquid display means displays the product name of the contrast medium which is available in a plurality of types having different concentrations of an effective component. Claims 37 and 38 have been similarly amended. The basis for this amendment is found in the paragraph beginning at line 12 of page 13 in the specification and in the paragraph bridging pages 19 and 20. For example, the contrast mediums which can be injected may have different concentrations of, e.g., iodine. When a contrast medium is injected into a subject and the subject is imaged to capture a fluoroscopic image thereof, since a different iodine concentration results in a different contrast, liquid injector 100 has data of iodine concentrations registered for the respective names of products as contrast mediums.

Concerning paragraph 1 of the Office Action, it is noted that the specification describes, in the paragraph beginning at line 5 of page 28, that the data of operating conditions may be registered in the liquid injector 100 for respective types of CT scanners 300 having different imaging rates. Thus, the specification provides antecedent basis for the limitation of Claim 29.

Briefly, the invention is directed to a liquid injector, method of liquid injection or computer program for controlling a liquid injector, wherein a contrast medium is injected into a subject to aid in fluoroscopic imaging. According to a feature of the invention set forth in the claims, the operation of the liquid injection mechanism is controlled based on operating conditions corresponding to regions to be imaged in relation to a selected schematic image of a body section. For example, referring to Figure 6, the body to be imaged may be divided

into body sections having regions such as the heart part or lung part in the chest section. The body sections and regions are displayed in order to receive an input action to select the displayed schematic image which is then used to control the operation of the liquid injection mechanism.

According to a further feature of the invention now set forth in the claims, a product name of the contrast medium may be displayed and selected, and the operating conditions may then be adjusted according to data of concentration stored for that product name. For example, as illustrated in Figure 9 and described at lines 12-21 of page 13 in the specification, the displayed contrast medium may be displayed and selected by name, as a result of which a correlation to read data of concentration controls the adjustment of the operating conditions of the injection operation.

Claims 13 and 18 were rejected under 35 U.S.C. § 103 as being obvious over U.S. patent publication 2003/0018252 (Duchon) in view of U.S. patent 6,366,683 (Langlotz) and U.S. patent 5,840,026 (Uber). According to the Office Action, Duchon discloses a liquid injection mechanism but does not disclose image display means, section display means, section input means, region display means, region input means and operation reading means. Langlotz was cited to teach these features. Moreover, Uber was cited to teach the feature of “liquid items [that] represent the concentration of an effective component of the contrast medium,” particularly at Table 1 thereof (Office Action, paragraph 44). However, it is nonetheless respectfully submitted that the amended claims, which now incorporate the subject matter of Claims 13 and 18, and further recite that the contrast medium is displayed and selected in accordance with its product name, is not taught or suggested by the cited prior art.

Uber discloses a contrast medium delivery system in which the contrast medium concentration and injection parameters can be adjusted before or during an injection

procedure. As part of this, contrast concentration and injection rate may be determined based upon a table which includes patient and scanning parameters (Table 1 in column 8).

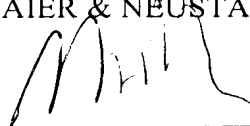
However, there is no description in Uber that the contrast medium is displayed or selected by product name as is now recited. Therefore, the operator must determine the product concentration based upon the product name and perform the necessary calculations, which can introduce complexity and error to the operation.

Since none of the cited prior art teaches or suggests display or inputting data regarding the contrast medium based upon the product name thereof, as is now recited in the claims, it is respectfully submitted that the amended claims clearly define over the cited prior art.

Applicants therefore believe that the present application is in a condition for allowance and respectfully solicit an early Notice of Allowability.

Respectfully submitted,

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